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Statistical Bulletin

METROPOLITAN LIFE INSURANCE COMPANY

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First Births Increase in Wartime

YOUNG mothers at ages 20 to 29 years having their first child, were the principal contributors to the rapid wartime rise in our birth rate. Among women at ages 40 and over, on the other hand, reproductivity actually decreased. The birth rate in large families, those with five children or more, has continued its prewar downward trend. These are the principal facts which are evident from a comparison of the birth rates among white women in the United States in 1939, when the war began, and in 1942, the latest year for which detailed data are available. The results are shown in the table and chart on the following pages.

Although the birth rate in this country increased with unparalleled rapidity during the war period, the general trends of reproductivity in relation to the age of mother and the size of family have continued essentially along the lines prevailing just prior to the beginning of the war, only in more accentuated form. For example, from 1933, when the birth rate in this country reached its lowest point, to 1939, the increase in births was almost entirely concentrated among women in their 20's. Similarly, between 1939 and 1942 white women at ages 20 to 24 recorded the largest increase in the birth rate, 29 percent; at ages 25 to 29 the rise was only slightly less, namely, 26 percent. The situation has changed, however, in regard to women in their early 30's. While they showed but little change in their birth rate in the prewar period from 1933, during the war years since 1939 they made an appreciable contribution to the increase in the number of babies born, the rate among them having risen by 17 percent.

But while women at all the younger ages were reporting marked increases in the birth rate, women in their 40's continued to show, without interruption, the downward trend in evidence among them for many years.

The trends of the rates according to the order of birth of the child, are obviously related to those according to age of the mother. First births showed a considerably larger wartime increase than any of the later orders of birth. The largest rise occurred among women in their 20's, where it amounted to 40 percent, but even among women from 30 to 39 the gain was 33 percent. The chief factor in the rise in first births at the younger ages has undoubtedly

been the recent rise in the marriage rate. Still a good part of the increase is accounted for by women who had been married for some time but delayed having children until economic conditions became more favorable.

Families having their second or third child also showed considerable gains during the war period. Among them, women at ages 30 and over showed the greatest rise, followed closely by women in their 20's. These increases could have been but little influenced by the recent upward trend of the marriage rate; they reflect mainly the usual increase in the birth rate when the curve of business conditions rises.

The data also indicate a small increase between 1939 and 1942 in the birth rate of fourth children. This reversed the rather steady downward trend which prevailed in the interwar period from 1919 to 1939, during which the rate was virtually cut in half.

For children of fifth and higher orders of birth, however, the long-term prewar downward trend has persisted. At ages 30 and over, the period at which women bear the largest number of these children, the drop from 1939 to 1942 amounted to 12 percent. It is clear that even boom conditions in employment and wages have not proved an adequate stimulus to increase the size of fairly large families. There is every indication from these figures that the tendency toward small American families will continue.

With the decline in the birth rate which set in during the last quarter of 1943, subsequent changes in the wartime birth rate will very likely be markedly different from those just described. In this new phase of the situation, the drop in the birth rate will probably be greatest among young women, particularly those under 30. A large proportion of these women have husbands who are away from home and in the

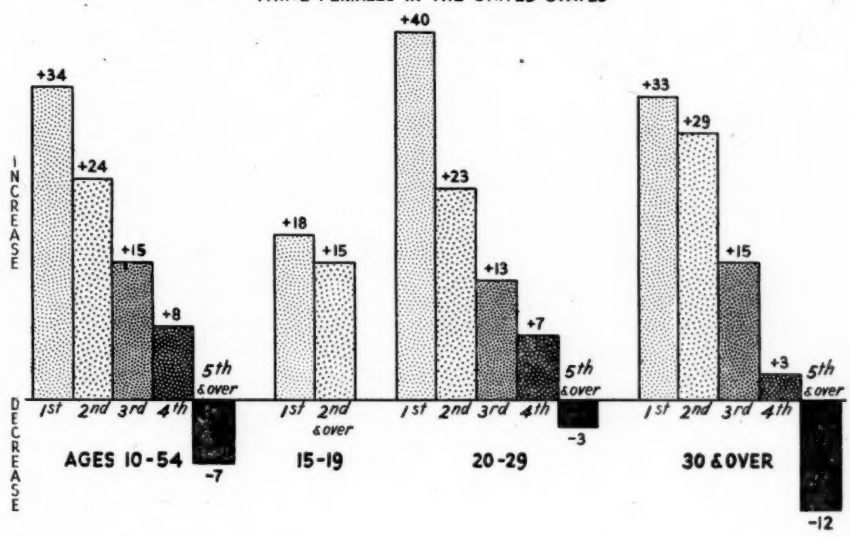
BIRTH RATES PER 1,000 WHITE FEMALES BY AGE
UNITED STATES, 1939 TO 1942

AGE OF MOTHER	BIRTH RATES PER 1,000 AT STATED AGES				PERCENT CHANGE FROM 1939 TO 1942
	1939*	1940†	1941†	1942†	
10 to 54	49.7	50.9	53.9	60.5	+22
15 to 19	42.4	42.2	44.6	49.2	+16
20 to 24	119.5	123.5	133.7	154.2	+29
25 to 29	111.6	116.6	124.2	140.7	+26
30 to 34	75.2	78.2	80.7	87.9	+17
35 to 39	41.6	41.7	42.2	44.7	+ 8
40 to 44	13.8	13.7	13.3	13.2	— 4
45 to 49	1.4	1.2	1.2	1.1	—21

*Computed in the Statistical Bureau of the Metropolitan Life Insurance Company.
†Bureau of the Census, Vital Statistics—Special Reports, Vol. 19, No. 17.

PERCENT CHANGE IN BIRTH RATES FROM 1939 TO 1942
BY AGE OF MOTHER AND ORDER OF BIRTH

WHITE FEMALES IN THE UNITED STATES



Metropolitan Life Insurance Company

armed services. Because of the decline in marriages during 1943 and 1944, the drop in the birth rate for first children may be most pronounced. This will very likely be the case not only for women under 30, but also for women at the higher ages. Thus, in the remaining period of declining birth rates, before the resurgence expected following the demobilization of our armed forces, an increasing share of the burden of providing our future population will be borne by women in their late reproductive period who have already had children.

Longevity of Industrial Population Continues at High Level

AFTER increasing without interruption for 13 years, the longevity of America's industrial population experienced a slight setback in 1943 from the all-time high record established a year before. The average length of life among the Industrial policyholders of the Metropolitan Life Insurance Company in 1943 was 63.56 years, or three fifths of a year less than in 1942 (see Table 1). It attests to the vigor of this country's wage-earners and their families that their longevity in the second full year of war was only slightly lower than the best figure on

TABLE 1—EXPECTATION OF LIFE AT BIRTH. WEEKLY PREMIUM-PAYING BUSINESS INDUSTRIAL DEPARTMENT; 1879-1889 TO 1943. METROPOLITAN LIFE INSURANCE COMPANY.

CALENDAR YEAR	EXPECTATION IN YEARS	CALENDAR YEAR	EXPECTATION IN YEARS	CALENDAR YEAR	EXPECTATION IN YEARS
1943	63.56	1934	59.45	1925	55.51
1942	64.18	1933	59.19	1924	55.62
1941	63.42	1932	58.80	1923	54.55
1940	62.93	1931	57.90	1922	55.04
1939	62.50	1930	57.36	1921	55.08
1938	61.94	1929	55.78	1919–1920	51.14
1937	60.71	1928	55.88	1911–1912	46.63
1936	60.31	1927	56.42	1879–1889	34.00
1935	60.25	1926	55.02	.....	.....

Gain, 1943 since 1911-1912, 16.93 years; since 1879-1889, 29.56 years.

TABLE 2—EXPECTATION OF LIFE AND MORTALITY RATE PER 1,000 AT SPECIFIED AGES BY COLOR AND SEX. WEEKLY PREMIUM-PAYING BUSINESS. INDUSTRIAL DEPARTMENT, 1943. METROPOLITAN LIFE INSURANCE COMPANY.

AGE	EXPECTATION OF LIFE					MORTALITY RATE PER 1,000				
	Total Persons	White		Colored		Total Persons	White		Colored	
		Males	Females	Males	Females		Males	Females	Males	Females
5	62.05	59.34	65.24	56.40	58.46	1.17	1.23	1.08	1.45	1.53
10	57.32	54.63	60.48	51.71	53.80	.65	.76	.53	.99	.93
15	52.54	49.86	55.65	47.08	49.13	1.17	1.36	.71	2.63	2.24
20	47.96	45.38	50.88	42.85	44.84	2.59	3.75	1.16	4.38	4.00
25	43.63	41.32	46.20	38.78	40.74	3.04	4.48	1.52	4.49	4.29
30	39.24	37.12	41.56	34.61	36.58	2.91	3.56	1.90	4.82	4.66
35	34.82	32.76	36.98	30.50	32.47	3.69	4.11	2.58	6.78	5.89
40	30.51	28.49	32.49	26.61	28.48	5.20	5.96	3.61	9.28	8.14
45	26.37	24.41	28.13	22.90	24.73	7.35	8.84	5.24	12.36	11.32
50	22.41	20.60	23.93	19.40	21.23	10.70	13.57	7.73	17.30	16.18
55	18.69	17.11	19.93	16.20	18.05	15.58	19.94	11.68	24.83	21.63
60	15.25	13.92	16.20	13.32	15.07	23.23	29.25	18.57	34.57	29.21
65	12.16	11.09	12.85	10.76	12.39	35.27	43.24	30.00	50.17	40.50
70	9.45	8.65	9.96	8.66	10.04	53.90	64.38	48.42	71.93	56.54
75	7.17	6.63	7.55	7.01	8.03	81.94	96.36	75.10	101.09	77.70

record despite a sharp increase in military deaths and widespread outbreaks of respiratory disease at the beginning and at the end of the year.

The fact is that among the rank and file of the civilian population of the country, longevity has been almost untouched in our second year at war, although the activities of the people have been geared to an all-out war effort. Among white females, for example, at all ages, and among white men over age 35, the expectation of life in 1943 was only three months less than in the year before. However, the impact of war is clearly visible in the experience among white males in the main military ages. At age 20 the longevity among them was reduced by more than one year during 1943.

The effect of the war on the mortality among young men is more clearly pictured in the death rates shown in the right-hand panel of Table 2. The concentration of war casualties among the youth of the country has altered the contour of the age curve of mortality from its usual pattern. Normally, the death rate after age 10 rises progressively with each advance in age. Last year, however, the death rate among white male policyholders at age 20 was higher than at age 30, and at age 25 it was higher than at 35. After this hump in the curve at the fighting ages, the mortality showed its usual upswing with advance in age.

The increased death rate among young men has widened the difference in mortality between the sexes. Thus, in 1941, which may be considered our last prewar year, the death rate among white male policyholders at age 25 was about 1⅓ times the rate for white females; last year the ratio was almost three to one. This increased mortality among young men is bound to have its effect on the sex ratios and on the ages at marriage in future years.

The war so far seems to have had little or no effect on the longevity among colored policyholders. Curiously enough, the expectation of life among colored males at age 5 increased slightly as compared with last year; for colored females, the figures for the two years are almost identical. The longevity among the colored is now at the level reached by white persons two decades ago.

It is still too early in the current year to say whether the average length of life in the industrial population will be higher or lower in 1944 than in the preceding year. As was pointed out in this BULLETIN last month, the mortality now prevailing shows contrasting tendencies: a decrease in mortality among the civilian population and a marked increase in war deaths, as compared with a year ago. That the longevity among civilians continues at a high level despite wartime rationing, increased nervous strain, crowded housing in many centers of war industries, and depleted medical personnel, is a tribute to the stamina of the American people. It is indicative of our high standard of living and of the splendid medical and health services which we have enjoyed for many years.

Motor Vehicle Fatalities Up in 1944

As our country approaches the time when civilian activities will be freed of the restrictions placed upon them by the demands of war, students of highway safety watch closely, and not a little apprehensively, the trend of motor vehicle accidents. The decline in the number of deaths in accidents of this kind from around 40,000 in 1941 to 28,000 in 1942, and further to 23,000 in 1943, resulted very largely, if not entirely, from a decrease in the use of automobiles. As a matter of fact, in the present emergency, the number of motor vehicle deaths showed the largest drop from prewar levels when restrictions on pleasure driving were tightest—that is, in the summer of 1943. Even the slight relaxation of the curbs late last year was soon followed by a sizable increase in the motor vehicle death toll. When all the bars are let down after the war, the ensuing rise in motor travel will undoubtedly bring us back to the high prewar death totals, unless law enforcement agencies are greatly strengthened and educational activities are expanded and made effective in bringing about a fundamental change in the attitude of the American people to this annual massacre.

Two factors distinguish the accident situation today from that of preceding years. In the first place, an unusually large proportion of the cars on the road are in poor condition because of their age and because of the difficulties in having repairs made and parts replaced. A second factor is the poorer condition of the roads. Conceivably these drawbacks may result in boosting the fatality toll for some time to come above what might be expected from the increase in driving. Opinions naturally will differ on the probable effect of these conditions. Some may contend that less efficient cars and poorer roadways will cause drivers to decrease speed of driving and to be more cautious in other ways. There is ground for this belief in the fact that the toll continued to mount up to 1941 despite the vast improvement in cars and highways. Whatever may be our opinions on this point, it is obvious that our safety program should stress the potential dangers of poor equipment and roadways. Drivers should have impressed upon them that the need for caution is greater than ever, and at the same time every effort should be made to build safety into new and existing highways.

Statistics now available are not sufficiently complete to show what effect defective cars and roads are likely to have. Data are at hand, however, on the types of motor vehicle accidents occurring among the many millions of Industrial policyholders of the Metropolitan Life Insurance Company in the first six months of 1944, and these are of interest in the present situation. They indicate broadly that the increase in motor vehicle fatalities this year is following the pattern that

might have been expected from past experience, the greatest increases occurring in those types of accidents which had declined most rapidly since 1941. Motor vehicle fatalities among passengers and drivers had declined more sharply than among pedestrians.

Each month from November 1943 to June 1944, the death rate from motor vehicle accidents among these Industrial policyholders ran higher than for the corresponding month in the preceding year. For the first half of 1944 the death rate was 14 per 100,000, or about what it had been in 1925, and 22 percent above the rate in the first six months of 1943. It should be noted, however, that the rate for January to June this year is still 26 percent below the rate for the corresponding period of 1941.

From the accompanying table it will be seen that the rise in the death rate among pedestrians between 1943 and 1944 was only 6 percent, whereas the rate for accidents in which two automobiles collided rose 36 percent. Fatalities in which a motor vehicle collided with a fixed object were up 75 percent, and those in noncollision accidents were up 33 percent. It would be expected, of course, that a greater reduction in the death rate would occur among occupants of automobiles than among pedestrians. A greater number of cars on the road would naturally tend to increase the chances of vehicles colliding with each other more than the chances of vehicles striking pedestrians, since there has been no material change in the number of the latter. No explanation is readily available for the large increase of 75 percent in the death rate from collisions between auto-

MOTOR VEHICLE ACCIDENT DEATH RATES PER 100,000 PERSONS, BY TYPE OF ACCIDENT. AGES 1 TO 74 YEARS. WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS. METROPOLITAN LIFE INSURANCE COMPANY. JANUARY-JUNE 1944 AND 1943 COMPARED.

TYPE OF ACCIDENT	1944	1943	PERCENT CHANGE
MOTOR VEHICLE (TOTAL)	14.2	11.6	+22.4
Collision with pedestrian	6.8	6.4	+ 6.3
Collision with vehicle:			
Railroad train	.8	.7	+ 14.3
Streetcar	.2	.1	+100.0
Other automobile	1.9	1.4	+ 35.7
Motorcycle	.1	.2	— 50.0
Bicycle	.2	.2	.....
Other vehicle	*	*	.....
Collision with fixed object	1.4	.8	+ 75.0
Noncollision accident	1.6	1.2	+ 33.3
Type of accident not specified	1.2	.7	+ 71.4

*Less than 0.05 per 100,000.

mobiles and fixed objects. Accidents of this kind had not declined to as great an extent as had deaths in collisions between automobiles.

It is of more than passing interest that the death rate in automobile-motorcycle accidents has actually been lower this year than last, and that there has been no change in the death rate from motor vehicle-bicycle accidents. The marked revival in the popularity of the bicycle in the years just before the war was accompanied by a sharp rise in the number of persons killed in automobile-bicycle collisions. More than 900 bicyclists lost their lives in such accidents in the United States in 1941. The drop in bicyclist deaths was considerable in 1942 and also in 1943, with the result that in the latter year the number of bicyclist fatalities was only about half what it had been in 1941.

A New Goal In Maternal Mortality

RECENT years have witnessed remarkable progress in safeguarding maternity. Evidence of this accomplishment is both clear cut and convincing. In 1942, the latest year for which detailed data are available, 29 States had maternal death rates of less than 2.5 per 1,000 live births; just two years earlier, only two States were in this category. To take another striking example, in 1942 South Carolina alone recorded a maternal death rate above five per 1,000 live births, whereas in 1936 no less than 31 States and the District of Columbia had such high rates. (See the table on page 9.) This rapid change in the picture in recent years is accounted for in part by the widespread use of the sulfa drugs in cases of puerperal septicemia. The medical and public health professions may be justly proud of their achievements in making childbearing safer.

One must not assume, however, from the large savings in life already effected, that deaths associated with childbearing have been brought down to their irreducible minimum. Such is not the case. The lives of many women are still being needlessly sacrificed during pregnancy, childbirth, and in the post-partum period. It is a disturbing fact that even now a large proportion of the women who die in maternity succumb to causes which are preventable. Septicemia is still the leading cause of maternal mortality, and in 1942 accounted for more than 2,800 such deaths, or for almost two out of every five maternal deaths in our country. Why should so many women die from septicemia when such potent weapons against infection as the sulfa drugs are available? Chemotherapy has already played a large role in sharply reducing deaths from puerperal septicemia, and there is no good reason why its extended use should not result in further large declines in septic conditions.

A large proportion of the deaths from puerperal infection are due to abortion. The total number of fa-

NUMBER OF STATES* IN EACH SPECIFIED MATERNAL MORTALITY CLASS
UNITED STATES, 1936-1942

MATERNAL DEATHS PER 1,000 LIVE BIRTHS	1942	1941	1940	1939	1938	1937	1936
Under 2.0	13	3	1	0	0	0	0
2.0 to 2.4	16	12	1	3	1	0	0
2.5 to 2.9	6	15	11	4	4	1	0
3.0 to 3.9	9	9	17	22	23	11	0
4.0 to 4.9	4	6	10	8	7	16	17
5.0 and Over	1	4	9	12	14	21	32

*Includes the District of Columbia.

talities from abortion reported in 1942 was in excess of 1,200, accounting for one out of every six maternal deaths in the United States. Actually, these figures are understatements, because many of the fatalities resulting from illegal abortion are not reported as such, and therefore are classified under other causes. But even on the basis of reported deaths, abortion is one of the leading causes of maternal mortality, and is perhaps the most fertile field for further progress in conserving the lives of childbearing women. Many deaths from therapeutic and spontaneous abortion can be prevented through early and adequate prenatal care; criminal abortions, of course, present a more complex and challenging problem.

Puerperal toxemias claimed the lives of almost 1,900 women in 1942. Alertness in detecting the first signs of albuminuria in pregnancy, together with prompt treatment, should prevent a large proportion of the deaths arising from this cause. An intensive effort should be made to urge all mothers to seek medical care as soon as they become aware of their pregnancy. This is a difficult but vital part of the campaign to reduce maternal mortality, for hospital and clinic facilities and the best medical skills can do little good unless expectant mothers take advantage of them.

Adequate prenatal and postnatal care can also obviate many deaths from puerperal hemorrhage, which account for one sixth of all the deaths incidental to childbearing. Although this cause is not as readily preventable as some of the other puerperal conditions, its death rate can undoubtedly be reduced materially. Studies show that the mortality from puerperal hemorrhage among women who do not have the benefit of prenatal care is several times that among those who have such care.

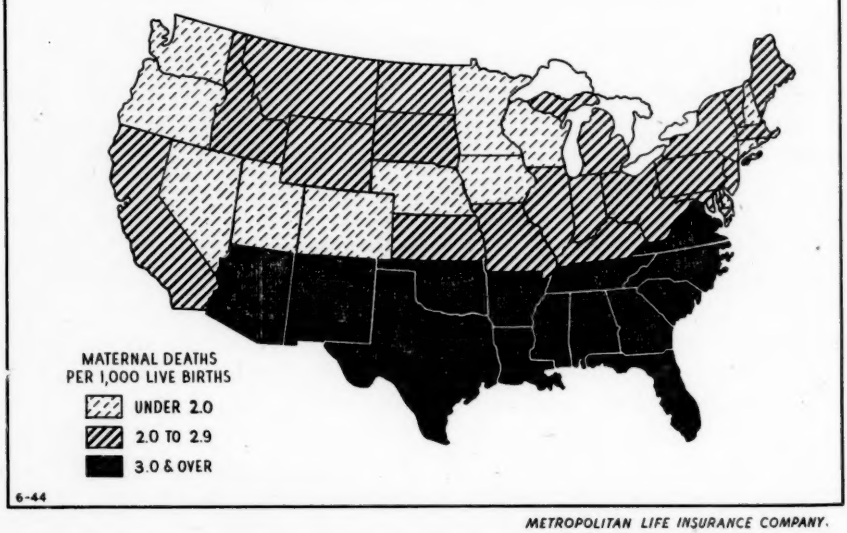
In attacking the problem of maternal mortality, special effort should be directed to the needs of Negro women, among whom the rate is 2½ times that for white women. This difference in mortality is due in large measure to the fact that the colored receive less prenatal care and relatively poorer obstetrical

attention in confinement. Increased access to skilled medical care and to hospitalization will do much to correct this situation.

Concentration of effort should also be directed at those areas of the country where the maternal death rates are highest. As the accompanying map indicates, the States in the southern portions of the country are still behind the others in safeguarding maternity. In large part, this unfavorable experience is explained by the high proportion of colored women giving birth in these States, but it is also true that the rates for white women in these areas are higher than the average for the country as a whole.

It is clear, then, that the hazards attending childbirth can and should be reduced still further. The current maternal mortality of about two per 1,000 live births can be reduced by at least one half. This goal can be attained within a relatively few years if the downward trend in maternal mortality continues at its present pace. A number of our larger cities—Albany, Des Moines, Minneapolis, Portland (Oreg.), Seattle, South Bend, and Tacoma—achieved rates of less than one per 1,000 live births in 1942. What they have accomplished can be done generally throughout the country. But it will require greatly expanded hospital and clinic facilities and increased medical and nursing personnel.

GEOGRAPHIC VARIATION IN MATERNAL MORTALITY
UNITED STATES, 1942



METROPOLITAN LIFE INSURANCE COMPANY.

Comparative Data on the Causes of Death Among Industrial Policyholders

The following table shows the mortality among Industrial policyholders for July 1944 and July 1943, together with the death rates for the first seven months of 1944, 1943, and 1942.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES.
WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS
METROPOLITAN LIFE INSURANCE COMPANY

CAUSES OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	July 1944	July 1943	Year to Date: End of July		
			1944	1943	1942
ALL CAUSES—TOTAL	738.0	739.5	837.2	810.5	751.5
Typhoid fever	0.1	0.3	0.2	0.2	0.3
Measles	.3	.6	1.2	.8	.7
Scarlet fever	.3	.1	.5	.4	.4
Whooping cough	.6	1.0	.5	1.4	1.0
Diphtheria	.2	.6	.6	.7	.5
Influenza	1.5	1.9	12.9	6.8	5.1
Pneumonia (all forms)	19.4	22.5	41.0	41.4	32.7
Tuberculosis (all forms)	38.3	41.5	42.6	41.5	43.1
Tuberculosis of respiratory system	35.2	36.5	38.7	37.5	38.6
Syphilis	8.8	7.4	9.7	10.0	11.0
Cancer (all forms)	104.6	100.1	108.9	106.8	104.3
Diabetes mellitus	24.3	24.2	29.9	29.3	29.0
Cerebral hemorrhage	59.2	59.1	69.3	68.3	61.4
Diseases of the coronary arteries and angina pectoris	57.3	51.6	65.5	62.7	58.3
Other chronic heart diseases†	145.5	154.8	177.7	180.2	161.1
Diarrhea and enteritis	4.4	5.1	3.6	3.6	3.6
Appendicitis	5.3	5.7	5.4	5.5	5.7
Chronic nephritis	43.9	47.0	49.6	52.8	51.3
Puerperal state—total	4.1	4.5	4.3	4.3	4.4
Suicides	5.9	6.1	6.2	6.5	7.6
Homicides	2.6	2.3	2.8	3.2	3.7
Accidents—total	55.5	61.8	53.9	50.5	51.0
Home accidents	7.5	8.6	11.3	12.4	11.9
Occupational accidents	4.3	7.2	5.6	6.5	6.8
Motor vehicle accidents	10.8	12.1	13.7	11.7	17.8
War deaths (enemy action)	45.6	11.5	32.6	11.2	4.2
All other causes of death	110.4	129.9	118.4	122.5	111.1

*The rates for 1944 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d), (e), and 95.

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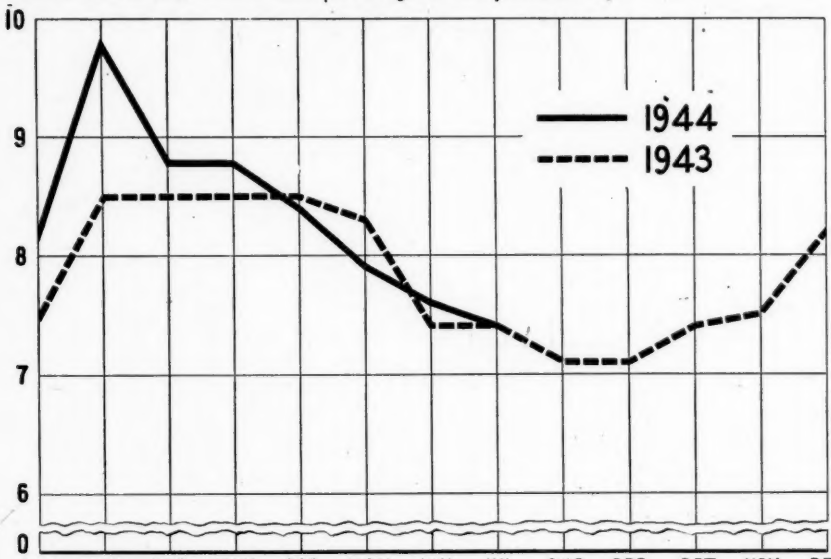
MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 ANNUAL BASIS *(1944 figures are provisional)*



(DEC)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1943	8.5	8.5	8.5	8.5	8.3	7.4	7.4	7.1	7.1	7.4	7.5	8.2
1944	9.8	8.8	8.8	8.4	7.9	7.6	7.4					

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